LEONID GREMYACHIKH

Researcher, Software Engineer

@ ligremyachikh@edu.hse.ru Moscow, Russia bamasa.github.io
github.com/bamasa gitlab.com/bamasa Google Scholar: NVO2imsAAAAJ

EDUCATION

National Research University Higher School of Economics

Computer and Information Sciences

Nov 2019 – Sep 2022 Moscow, Russia

- PhD in Applied Mathematics and Informatics
- The dissertation will be related to Machine Learning and Deep Reinforcement Learning

National Research University Higher School of Economics

Data Science

Sep 2016 – Jun 2018 Moscow, Russia

- MS in Applied Mathematics and Informatics
- Grade in Reinforcement Learning = 10
- Grade in Deep Learning = 10
- Thesis theme: "Automation of Satellite Collision Avoidance Maneuvers with Deep Reinforcement Learning"

National Research University Moscow Aviation Institute

Design and Technology of Electronic Equipment

Sep 2009 – Feb 2015 Moscow, Russia

- Specialist in Engineering

WORK EXPERIENCE

Laboratory of Methods for Big Data Analysis

Research Assistant

Apr 2018 – currently Moscow, Russia

ML, DL, RL, Distributed Learning, Research, Papers

Python

Radio Engineering Institute named after academician A. L. Mints

Engineer

Apr 2015 – Apr 2018 Moscow, Russia

Digital signal processing, Signal Analysis, Space Objects Recognition

C++ Mathcad

HARD SKILLS

- Deep Learning
- Computer Vision
- Machine Learning
- Reinforcement Learning

Python
C++

EDUCATION / COURSES

Computer Vision 2

OpenCV (2020) *(in process)*

Computer Vision 1

OpenCV (2020) *(in process)*

Computer Vision

OTUS (2020)

Advanced ML Specialization

Coursera (2019-2020) *(in process)*

C++ Specialization

Coursera (2019-2020) *(in process)*

Autumn School on Generative Models

HSE-Yandex (26-29 November 2019)

SOFT SKILLS

- presentation skills
- meeting management skills
- communication
- self-management, self-efficiency
- teamwork skills
- mentoring
- documentation

PROJECTS

Anomaly Prediction in Storage Area Network (2018-2020)

- a publication "SANgo: a storage infrastructure simulator with reinforcement learning support"
- researched methods for improving Digital Twin of Storage Area Network, tested methods on chaotic systems, developed OpenAI Gym wrappers, applied RL methods
- NLP on logs

Python | Docker | DL | RL | NLP

Sixth Machine Learning in High Energy Physics Summer School (2020)

Volunteering, helping students.

Python | DL | Mentoring

International Data Analysis Olympiad (2020)

Participated in the preparation of Higher School of Economics and Yandex the 3rd international data analysts olympiad. The competition task – build a model that would predict the position of space objects using simulation data.

- analyzed the task and SOTA
- prepared and verified data (ephemeris) using GMAT and SGP4
- prepared a baseline (LR)
- checked and analyzed the solutions of the participants
- answered questions from participants

Python | GMAT

Satellite Positioning (2019-2020)

The project task – build a model that would predict the position of space objects using simulation data.

- students mentoring

Python | Management | Mentoring

Distributed Deep Learning (2018-2019)

- developed Distributed Deep Learning pipelines

Python | Docker | Azure | DL

Model Gym (2018)

- developed and debugged a hyperparameter optimization system

Python | ML

Automation of Satellite Collision Avoidance Maneuvers with Deep Reinforcement Learning (2017-2018)

- a publication "Space Navigator: a Tool for the Optimization of Collision Avoidance Maneuvers"
- researched and developed a system for calculating maneuvers for spacecraft based on Machine Learning
- MVP is done
- participated in IAA SciTech Forum 2018

Python | DL | RL

Sex Prediction via Deep Learning (2017)

- researched Sex Prediction via Deep Learning by person's Friends Graph from social network and friends' photos
- used pre-trained VGG from ImageNet, Social Network Analysis
- collected data from "vk.com"
- obtained better score than the baseline

Python | DL | Social Network Analysis

PUBLICATIONS

- **Journal Articles**
  - K. Arzymatov, A. Sapronov, V. Belavin, L. Gremyachikh, M. Karpov, A. Ustyuzhanin, I. Tchoub, and A. Ikoev (2020). "SANgo: a storage infrastructure simulator with reinforcement learning support". In: *PeerJ Computer Science*, pp. 1–16.
  - "Space Navigator: a Tool for the Optimization of Collision Avoidance Maneuvers" (2020). In: *CoRR* abs/1902.02095. eprint: 1902.02095.

CONFERENCES & SPEECHES

- SMILES, Moscow, SKOLTECH, international summer school – poster presentation "AI and Satellite Problems" (2020)
- IDAO (international data analysts olympiad) – IDAO Webinar on Data Analysis for Satellite Tracking (2020)
- Space debris: fundamental and practical aspects of the threat, Moscow, Institute of Astronomy RAS and Space Research Institute RAS, Russian conference with international participation – report "Space Navigator" (2019)
- IAA SciTech Forum 2018, Moscow, RUDN, international conference – paper report "SpaceNavigator: a Tool for the Optimization of Collision Avoidance Maneuvers" (2018)